



Compucorp OmegaNet provides an efficient cost effective means of electronically sharing information among Compucorp Information Processors. By electronically sharing information, OmegaNet can reduce the costs of gathering intra-company information by providing rapid access to the public information in each user's control.

OmegaNet allows sharing such costly devices as mass disk storage and printers—resources that are frequently under-utilized in today's stand alone systems.

Compucorp has used distributed processing—and advanced local area networking technology—to make OmegaNet a reality. OmegaNet can be easily added to any Compucorp Information Processor either at the time of installation or at a later date.

### SHARE INFORMATION AND RESOURCES

- Share information among users.
- Share printers—fewer are needed.
- Share disk storage facilities—maximize disk utilization.
- Allow for information interchange among users.
- Increase user productivity.
- Decrease office automation costs.

### OMEGANET CAPABILITIES

OmegaNet provides simultaneous word processing and data processing capabilities on a single network. In addition, each work station may be fitted with communications facilities allowing, on a stand alone basis, access to remote data bases, and mainframe computers of other networks. Alternatively, communication facilities may be attached to the network and shared by work stations. Further, on a stand alone basis, disk equipped

models of OmegaNet work stations may use the CP/M® Operating System and the vast commercially available library of application programs which run on it. These allow OmegaNet work stations to be used for an even greater variety of tasks. Thus, OmegaNet work stations are capable of simultaneously replacing many other types of equipment. This is another reason OmegaNet is the affordable network.

### OMEGANET NEEDS NO CENTRAL PROCESSOR

OmegaNet is a true network. Each OmegaNet work station may have full, independent and direct access to shared information and resources. There is no central processor to slow down the system. Each work station performs local processing in the fastest possible time, regardless of what else is being done on the network at the same time.

On the other hand, old fashioned "shared resource" systems require an expensive central processor to control the system's information flow and resource allocation and to funnel system actions and responses. Often the same central processor is also required to perform all the editing and calculation operations as well. As more work stations are added to the "shared resource" system, the central processor becomes more heavily burdened. As the system's workload thus increases, its ability to perform in a satisfactory manner diminishes. Users begin to experience delays in system response and become dissatisfied. This type of degradation does not occur with OmegaNet.

### HOW OMEGANET WORKS

All work stations on OmegaNet are connected via coaxial cable. This cable carries information along the network at the rate

# OmegaNet®

of 500,000 information bits per second. Operating technology is baseband Carrier-Sense-Multiple-Access/Collision-Avoidance (CSMA/CA).

Whenever the OmegaNet work station needs access to another device or resource on the network, the station accesses to the network and sends out a short burst of information called a packet.

Packets may contain text, data, or supervisory information. Specifically, packets may contain instructions to exchange text or data with remote storage files. Packets can also contain instructions to perform certain actions such as the automatic printing of information on a shared printer whenever the printer is available for use.

The packets are addressed to a specific device on the network and are only recognized and received by that device. The packets are sent at a rate of 62,500 characters per second. Each packet is present on the coaxial cable for only a very short period of time. This leaves the coaxial cable available to carry a large number of packets originating from various stations.

If a packet is corrupted during transmission, the originating station, not receiving the proper acknowledgment by the destination station, will retransmit. The station automatically tries again at very rapid intervals allowing interleaved packets to be placed on the network as soon as possible. Thus, without any operator actions, the OmegaNet coaxial cable can be fully utilized by all users for maximum information flow and maximum network utilization.

## FLEXIBLE AND EXPANDABLE

OmegaNet meets the needs of organizations of all sizes. With OmegaNet, the affordable network, even small departments or small groups of users who need to share information or resources can do so at minimum cost. Larger groups of users are also accommodated by OmegaNet.

OmegaNet utilizes the unique Compucorp Network Architecture (CNA) to allow a network of a small to medium size to be built at a reasonable cost. Unlike earlier network products which were designed for only the largest of organizations, CNA was created by Compucorp especially to meet the needs of organizations with limited budgets.

CNA allows small groups of users to install a cost-effective network which in turn may be interconnected to others to form a larger network. With CNA, cost and performance objectives are easily met.

With CNA, departments may easily and inexpensively share information and resources. These in turn may be shared by other departments. Information can flow among departments or may be restricted to only one department.

The needs of the entire organization are thus met at minimum cost. Another reason why OmegaNet is the affordable network.

## OMEGANET COMPONENTS

OmegaNet provides a choice of network building blocks which satisfy the needs of small and large users. These are briefly described:

### Work Stations:

Any model of the Compucorp Information Processor may be used as an OmegaNet work station. There are presently five to choose from:

MODEL NUMBER	TYPE AND NO. OF DISKS		DISK CAPACITY (EACH)	
	DISKETTE	WINCHESTER	DISKETTE	WINCHESTER
745	None	None	N/A	N/A
655	1-2	None	160KB	N/A
665	1-4	None	315KB	N/A
675	1-4	None	655KB	N/A
685	1	1-3	655KB	5 MB

Each provides the operator with a keyboard, a CRT and a processor with 192K bytes of total internal memory. A work station may also be fitted with various peripherals such as additional disks, a printer, and data communications facilities.

### Video Displays

Work stations may be fitted with a choice of video display. There are presently three models, both half- and full-page configurations:

MODEL NUMBER	SCREEN SIZE	CHAR. PER LINE	NUMBER OF LINES	LINES TOTAL
020*	12 inch	80	20	1,600
024	12 inch	80	24	1,920
060	15 inch	80	60	4,800

\*The 20 line screen is not available on the 700 Series processors.

### Disk Storage

OmegaNet utilizes Winchester hard disks for shared information storage in file processors. In addition, work stations may be equipped with floppy disk drives or Winchester disks for local information storage or work space. Winchester disks on the network can be "shared" or reserved as "private" storage facility.

### Serial Communications Processors

Serial Communications Processors (SCP) are dedicated processors that provide high speed communications between one or more shared peripherals and the network. These peripherals include data communications modems and printers utilizing EIA RS-232C compatible interfaces.

### Printers

A variety of printers may be used with OmegaNet to meet needs of both word processing and data processing users. OmegaNet provides this capability by using the popular RS-232C standard for interfacing to printers. Most of the major manufacturers of Daisy Wheel, Thimble, Dot Matrix, and Xerographic (laser) printers support this interface. For special word processing requirements, such as proportionally spaced printing and super- or sub-scripting, OmegaNet supports printers using

Diablo/Qume compatible or NEC compatible control sequences.

Compucorp's own model 32/40 printer is available as a component of OmegaNet. The 32/40 is a letter quality printer which utilizes both metal and plastic print wheels and prints at speeds up to 40 CPS (Characters Per Second). A variety of forms handling options are available with the 32/40 including Dual Sheet Feeders, Dual Sheet Plus Envelope Feeders, and Tractor Feeds.

Printers may be connected to work stations, file processors, and serial communications controllers. OmegaNet's Printer Management System (PMS) makes it possible for a work station to print on a local printer or a public printer on another station. All print jobs are prioritized and queued to the printer selected by the operator. PMS then allocates printers to maximize the throughput.

### **OmegaNet Cable and Repeaters**

The stations of a network are connected via commonly available coaxial cable. Up to 16 stations may be attached to the cable. Network stations may be separated by up to 2,000 feet of cable. Station separations of up to 5,000 feet are attainable using repeaters. Repeaters also allow an increased number of stations to be put on a network.

### **Gateways**

Gateways are used to interconnect two or more networks. These "Store and Forward" Communications Processors collect information from one network and form a network of networks called an Internet. By using smaller networks connected by gateways, traffic on each small network is minimized. Only traffic from other networks which is meant to access the local network passes through the gateway.

Data Transfer Rate	500,000 bits per second
Stations (1) per cable segment	16 maximum
Cable segments (2) per network	16 maximum
Stations per network	8-32 depending upon application
File processors per subnetwork	1-3 typical
Printers per print server	2 max. on file processor 4 max. on serial communication processor
Networks per Internet	4-16 depending upon application
Cable segment length	2000 ft. max.
Maximum station separation	5000 ft.
Segment cable type	Belden 8219 (up to 2000 ft.) or equivalent
Intersegment cable type	Belden 8219 or Belden 8214 (to 5000 ft.)

(1) A station may be a work station, file processor, repeater, gateway or serial communications processor.

(2) Cable segments are usually connected with repeaters to the intersegment cable; two repeaters maximum in a communications path.

### **ENVIRONMENT**

	OPERATING	STORAGE
INFORMATION PROCESSORS:		
Temperature	+ 50 to + 104F (+ 10 to + 40C)	- 40 to + 140F (- 40 to + 65C)
Humidity (non-sensitivity)	10 to 90% RH	0 to 95% RH
DISKETTE MEDIA:		
Temperature:	+ 50 to + 104F (+ 10 to + 40C)	+ 50 to + 125F (+ 10 to + 52C)
Humidity: (non-conductivity)	10 to 90% RH	0 to 95% RH

All information and specifications herein is subject to change without notice.

**Compucorp**<sup>®</sup>

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